

CLAIMS

What is claimed is:

1. A power transmission comprising:  
a first rotating member driven by an external drive source;  
an electromagnetic solenoid provided on said first rotating member;  
a second rotating member connected to a main shaft of a rotary apparatus; and  
a mechanism for engaging a plunger of said electromagnetic solenoid to and for disengaging said plunger from said second rotating member.
2. The power transmission according to claim 1, wherein said mechanism comprises internal teeth formed on said plunger of said electromagnetic solenoid and external teeth formed on said second rotating member wherein said internal teeth are adapted to engage said external teeth.
3. The power transmission according to claim 1, wherein said mechanism comprises external teeth formed on said plunger of said electromagnetic solenoid and internal teeth formed on said second rotating member wherein said external teeth are adapted to engage said internal teeth.
4. The power transmission according to claim 1, wherein said mechanism comprises first teeth formed on an end of said plunger of said electromagnetic solenoid and second teeth formed on an end of said second rotating member opposing said end of said plunger; wherein said first teeth are adapted to engage said second teeth.
5. The power transmission according to claim 1, further comprising a guide mechanism, wherein said guide mechanism for guiding said plunger of said electromagnetic solenoid along said first rotating member is provided between said plunger and said first rotating member.
6. The power transmission according to claim 1, further comprising a torque limiter, wherein said torque limiter is provided to said second rotating member.

7. The power transmission according to claim 1, wherein said rotary apparatus is a compressor for use in an air conditioning system for vehicles.

8. A power transmission comprising:  
a first rotating member driven by an external drive source;  
an electromagnetic solenoid provided on said first rotating member;  
a second rotating member connected to a main shaft of a rotary apparatus; and  
a mechanism for engaging a plunger of said electromagnetic solenoid to and for disengaging said plunger from said second rotating member;  
wherein said mechanism comprises a motivator manufactured from a magnetic material, such that when said electromagnetic solenoid is activated, said plunger engages said second rotating member, and a biasing means, such that when said electromagnetic solenoid is deactivated, said biasing means disengages said plunger from said second rotating member.

9. The power transmission according to claim 8, wherein said mechanism further comprises internal teeth formed on said plunger of said electromagnetic solenoid and external teeth formed on said second rotating member wherein said internal teeth are adapted to engage said external teeth.

10. The power transmission of claim 9, wherein said second rotating member further comprises a hub for fixedly connecting said second rotating member to said main shaft and a damper positioned between said hub and said external teeth.

11. The power transmission according to claim 8, wherein said mechanism further comprises external teeth formed on said plunger of said electromagnetic solenoid and internal teeth formed on said second rotating member wherein said external teeth are adapted to engage said internal teeth.

12. The power transmission of claim 11, wherein said second rotating member further comprises a hub for fixedly connecting said second rotating member to said main shaft and a damper positioned between said hub and said internal teeth.

13. The power transmission according to claim 8, wherein said mechanism further comprises first teeth formed on an end of said plunger of said electromagnetic solenoid and second teeth formed on an end of said second rotating member opposing said end of said plunger; wherein said first teeth are adapted to engage said second teeth.

14. The power transmission of claim 13, wherein said second rotating member further comprises a hub for fixedly connecting said second rotating member to said main shaft and a damper positioned between said hub and said second teeth.

15. The power transmission according to claim 8, further comprising a guide mechanism, wherein said guide mechanism for guiding said plunger of said electromagnetic solenoid along said first rotating member is provided between said plunger and said first rotating member.

16. The power transmission according to claim 8, further comprising a torque limiter, wherein said torque limiter is provided to said second rotating member.

17. The power transmission according to claim 8, wherein said rotary apparatus is a compressor for use in an air conditioning system for vehicles.